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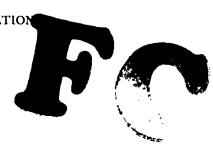
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PRINCETON UNIVERSITY

PRINCETON, NEW JERSEY

SCHOOL OF ENGINEERING, JOHN C. GREEN FOUNDATION

DEPARTMENT OF ARRONAUTICAL ENGINEERING
THE SECOND S



March 5, 1956

AD No ASTIA

Commanding Officer

Office of Naval Research Air Branch/ Code 461 Department of the Navy Washington 25, D. C.

Subject:

Model Study of Dynamic Stability of Helicopter -- Status Report

covering the month of February 1956.

Contract N6 onr-27015

HO4S Simulation Program:

The model is now on alying status, and calibration of the instrumentation has begun. The initial flights were very satisfactory and it is anticipated that useful data will be obtained by the end of the month.

The forward flight servo drive system working mock up is essentially complete, and shake down runs will begin during the next few weeks.

Forward Flight Facility:

All work on the facility continues on schedule.

Induced Flow Studies:

The test program is continuing in order to cover the following ranges:

Blade collective pitch angle

8°, 9°. 10°

Angle of attack of plane of zero feathering

0°, 5°, -10°

Advance ratio

0-0.30

Smoke will be injected into the tip vortex and its motion will be recorded on movie film as a function of azimuth angle from the blade feathering

axis. The thrust, rotor RPM, and forward speed will be recorded by an oscillograph. It is expected that most of this work will be accomplished during March.

Very truly yours,

LEONARD GOLAND

Chief Project Engineer

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